

Crash
type film-forming system or a system using plasma. A film-forming system having a heating lamp, according to the invention has been described.

IN THE CLAIMS

Please amend the claims as shown in the marked-up copy attached to read as follows:

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1. (Amended) A particle-measuring system,
provided in a processing system for generating an atmosphere including atmospheric air or a gas exhausted from within a processing chamber by a vacuum pump, and for processing an object relating to a semiconductor manufacturing in this atmosphere, and installed on an exhaust pipe that connects between an exhaust opening of the processing chamber and the vacuum pump,
the particle-measuring system being provided for radiating laser beams onto a portion of an exhaust gas, having a high particle density, exhausted from the exhaust pipe, detecting scattered light from particles in the portion of the exhaust gas and measuring the number of particles included in the exhaust gas.

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2. (Amended) A particle-measuring method for measuring the number of particles included in an exhaust gas exhausted from a processing system for generating an atmosphere including atmospheric air or a gas exhausted from within a processing chamber by a vacuum pump, and for processing an object relating to a semiconductor manufacturing in this atmosphere, the method comprising the steps of:

modeling a parameter regarding a principle of generating particles and a parameter representing a feature of the generated particles;

carrying out a numerical simulation for expressing trajectory of an exhaust gas that includes particles flowing through an exhaust pipe;

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carrying out a trajectory numerical simulation of an exhaust gas and particles; confirming an optimum position for measuring particles; determining sensor installation position; installing the sensor; and counting the number of particles flowing in the exhaust pipe, wherein trajectory of particles that flow through the exhaust pipe after the particles have been generated inside the processing chamber and exhausted from the processing chamber are simulated, to select an area where the density of the particles is the highest in the radial direction of the exhaust pipe, a laser beam irradiator is disposed at a position in this area where laser beams for measurement pass through and a scattered light detector is disposed in a direction orthogonal with the laser beams, thereby to measure the number of the particles.

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Please add new Claims 18-20 as follows:

18. (New) A particle-measuring system connected to a processing chamber, and provided in a pipe for allowing fluid to flow therein, for irradiating laser beams onto a portion of the fluid, having high particle density, flowing in the pipe detecting scattered light from particles in the portion of the fluid, and measuring a number of the particles included in the fluid.

19. (New) The particle-measuring system according to claim 18, comprising:
a laser beam irradiator for irradiating laser beams into the pipe along a line connecting a center point of a cross section of the pipe and a center axis passing vertically through a center of the processing chamber; and